

U.S. Patent No. 2,918,917 to *Emerson*.

Claim 1 of the subject application is directed to an improved insufflation-exsufflation system with percussive assist for removal of broncho-pulmonary secretions comprising a conduit for connection to a patient's airway, a pressure source for providing to said conduit alternating positive and negative pressure fluctuations at a first rate corresponding to patient insufflation and exsufflation, and a control mechanism for varying pressure during positive and negative pressure fluctuations at a second higher rate to periodically decrease the positive pressure during positive fluctuations and decrease the negative pressure during negative fluctuations to provide percussive pulses during at least one of insufflation and exsufflation to clear broncho-pulmonary secretions from the patient's airway.

Emerson is directed to an apparatus for vibrating portions of a patient's airway. The apparatus of *Emerson* includes a face mask A, a vibrating apparatus B, and a pressure creating apparatus or pump C which is adaptable to create a column of gas under either positive or negative pressure. However, *Emerson* fails to disclose a pressure source for providing alternating positive and negative pressure fluctuations at a first rate corresponding to patient insufflation and exsufflation as claimed by the applicant.

Emerson discloses that when positive pressure is applied, either the patient or an attendant intermittently interrupts the positive pressure cycle to permit an exhalation. During such an interruption, the column of gas is placed in communication with the atmosphere to permit the patient to exhale naturally. *See* Col. 2, lines 3-8 and Col. 5, lines 21-26 of *Emerson*. When negative pressure is applied, the negative pressure cycle is interrupted by connecting the patient's airway to the atmosphere to provide fresh air for inhalation. *See* Col. 2, lines 12-17 and Col. 5, lines 30-38 of *Emerson*.

The applicant submits that it is clear from these passages that *Emerson* discloses a pressure source which provides either positive or negative pressure during operation, and fails to disclose a pressure source for providing alternating positive and negative pressure fluctuations as claimed by the applicant. Indeed, *Emerson* specifically states that “the apparatus may be adjusted to supply a column of gas which is under either positive or negative pressures to induce or assist inhalation or exhalation” (emphasis added) Col. 1, line 71 – Col. 2, line 2. Further, *Emerson* states that the pump creates continuous positive or negative pressures. Col. 5, lines 60-61 of *Emerson*.

Accordingly, the applicant submits that *Emerson* fails to disclose, and in fact teaches away from, providing a pressure source for providing alternating positive and negative pressure fluctuations at a first rate corresponding to patient insufflation and exsufflation as claimed by the applicant. Therefore, claims 1-10 are patentable over *Emerson*.

Each of the Examiner’s rejections has been addressed or traversed. Accordingly, it is respectfully submitted that the application is in condition for allowance. Early and favorable action is respectfully requested.

If for any reason this Response is found to be incomplete, or if at any time it appears that a telephone conference with counsel would help advance prosecution, please telephone the undersigned or his associates, collect in Waltham, Massachusetts, at (781) 890-5678.

Respectfully submitted,



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